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<120> Fusion protein composition

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<150> P2003-350158

<151> 2003-10-08

<160> 113

<170> PatentIn Ver. 2.1

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<212> DNA

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<213> *Cricetulus griseus*

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His Val Lys Ile Ser Phe Asp Leu Ala Glu Tyr Thr Ala Asp Val Asp
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<213> *Cricetulus griseus*

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<213> *Cricetulus griseus*

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<211> 575

<212> PRT

<213> *Cricetulus griseus*

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Thr	Val	Phe	Arg	Pro	Val	Ser	Glu	Thr	Cys	Thr	Asp	Arg	Ser	Gly	Leu	
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Ser	Thr	Gly	His	Trp	Ser	Gly	Glu	Val	Asn	Asp	Lys	Asn	Ile	Gln	Val	
		275					280					285				
Val	Glu	Leu	Pro	Ile	Val	Asp	Ser	Leu	His	Pro	Arg	Pro	Pro	Tyr	Leu	
	290					295					300					
Pro	Leu	Ala	Val	Pro	Glu	Asp	Leu	Ala	Asp	Arg	Leu	Leu	Arg	Val	His	
305					310					315					320	
Gly	Asp	Pro	Ala	Val	Trp	Trp	Val	Ser	Gln	Phe	Val	Lys	Tyr	Leu	Ile	
				325					330					335		
Arg	Pro	Gln	Pro	Trp	Leu	Glu	Lys	Glu	Ile	Glu	Glu	Ala	Thr	Lys	Lys	
			340					345					350			
Leu	Gly	Phe	Lys	His	Pro	Val	Ile	Gly	Val	His	Val	Arg	Arg	Thr	Asp	
		355					360					365				
Lys	Val	Gly	Thr	Glu	Ala	Ala	Phe	His	Pro	Ile	Glu	Glu	Tyr	Met	Val	

370		375		380
His Val Glu Glu His Phe Gln Leu Leu Ala Arg Arg Met Gln Val Asp				
385		390		400
Lys Lys Arg Val Tyr Leu Ala Thr Asp Asp Pro Thr Leu Leu Lys Glu				
	405		410	415
Ala Lys Thr Lys Tyr Ser Asn Tyr Glu Phe Ile Ser Asp Asn Ser Ile				
	420		425	430
Ser Trp Ser Ala Gly Leu His Asn Arg Tyr Thr Glu Asn Ser Leu Arg				
	435		440	445
Gly Val Ile Leu Asp Ile His Phe Leu Ser Gln Ala Asp Phe Leu Val				
	450		455	460
Cys Thr Phe Ser Ser Gln Val Cys Arg Val Ala Tyr Glu Ile Met Gln				
465		470		475
Thr Leu His Pro Asp Ala Ser Ala Asn Phe His Ser Leu Asp Asp Ile				
	485		490	495
Tyr Tyr Phe Gly Gly Gln Asn Ala His Asn Gln Ile Ala Val Tyr Pro				
	500		505	510
His Lys Pro Arg Thr Glu Glu Glu Ile Pro Met Glu Pro Gly Asp Ile				
	515		520	525
Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr Ser Lys Gly Ile Asn				
	530		535	540
Arg Lys Leu Gly Lys Thr Gly Leu Tyr Pro Ser Tyr Lys Val Arg Glu				
545		550		555
Lys Ile Glu Thr Val Lys Tyr Pro Thr Tyr Pro Glu Ala Glu Lys				
	565		570	

<210> 9
 <211> 5
 <212> PRT
 <213> Mus musculus

<400> 9□@
 Asp His Ala Ile His
 1 5

<210> 10
 <211> 17
 <212> PRT
 <213> Mus musculus

<400> 10□@
 Tyr Phe Ser Pro Gly Asn Asp Asp Phe Lys Tyr Asn Glu Arg Phe Lys
 1 5 10 15

Gly
 <210> 11

<211> 6
<212> PRT
<213> Mus musculus

<400> 11□@
Ser Leu Asn Met Ala Tyr
1 5

<210> 12
<211> 17
<212> PRT
<213> Mus musculus

<400> 12□@
Lys Ser Ser Gln Ser Leu Leu Tyr Ser Gly Asn Gln Lys Asn Tyr Leu
1 5 10 15

Ala

<210> 13
<211> 7
<212> PRT
<213> Mus musculus

<400> 13□@
Trp Ala Ser Ala Arg Glu Ser
1 5

<210> 14
<211> 9
<212> PRT
<213> Mus musculus

<400> 14□@
Gln Gln Tyr Tyr Ser Tyr Pro Leu Thr
1 5

<210> 15
<211> 115
<212> PRT
<213> Mus musculus□@

<400> 15
Gln Val Gln Leu Gln Gln Ser Asp Ala Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp His
20 25 30

Ala Ile His Trp Val Lys Gln Asn Pro Glu Gln Gly Leu Glu Trp Ile
35 40 45

Gly Tyr Phe Ser Pro Gly Asn Asp Asp Phe Lys Tyr Asn Glu Arg Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr

65	70	75	80												
Val	Gln	Leu	Asn	Ser	Leu	Thr	Ser	Glu	Asp	Ser	Ala	Val	Tyr	Phe	Cys
				85					90					95	
Thr	Arg	Ser	Leu	Asn	Met	Ala	Tyr	Trp	Gly	Gln	Gly	Thr	Ser	Val	Thr
			100					105					110		
Val	Ser	Ser													
		115													

<210> 16
 <211> 113
 <212> PRT
 <213> Mus musculus

<400> 16
Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Pro Val Ser Val Gly
1 5 10 15
Glu Lys Val Thr Leu Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser
20 25 30
Gly Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
35 40 45
Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser Gly Val
50 55 60
Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Ser
65 70 75 80
Ile Ser Ser Val Lys Thr Glu Asp Leu Ala Val Tyr Tyr Cys Gln Gln
85 90 95
Tyr Tyr Ser Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Val Leu
100 105 110
Lys

<210> 17
 <211> 265
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Amino Acid Sequence of Single Chain Antibody

<400> 17
Met Glu Trp Ser Trp Val Phe Leu Phe Phe Leu Ser Val Thr Thr Gly
1 5 10 15
Val His Ser Gln Val Gln Leu Gln Gln Ser Asp Ala Glu Leu Val Lys
20 25 30
Pro Gly Ala Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe
35 40 45

Thr Asp His Ala Ile His Trp Val Lys Gln Asn Pro Glu Gln Gly Leu
 50 55 60
 Glu Trp Ile Gly Tyr Phe Ser Pro Gly Asn Asp Asp Phe Lys Tyr Asn
 65 70 75 80
 Glu Arg Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser
 85 90 95
 Thr Ala Tyr Val Gln Leu Asn Ser Leu Thr Ser Glu Asp Ser Ala Val
 100 105 110
 Tyr Phe Cys Thr Arg Ser Leu Asn Met Ala Tyr Trp Gly Gln Gly Thr
 115 120 125
 Ser Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 130 135 140
 Gly Gly Gly Gly Ser Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu
 145 150 155 160
 Pro Val Ser Val Gly Glu Lys Val Thr Leu Ser Cys Lys Ser Ser Gln
 165 170 175
 Ser Leu Leu Tyr Ser Gly Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln
 180 185 190
 Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala
 195 200 205
 Arg Glu Ser Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr
 210 215 220
 Asp Phe Thr Leu Ser Ile Ser Ser Val Lys Thr Glu Asp Leu Ala Val
 225 230 235 240
 Tyr Tyr Cys Gln Gln Tyr Tyr Ser Tyr Pro Leu Thr Phe Gly Ala Gly
 245 250 255
 Thr Lys Leu Val Leu Lys Arg Ala Ala
 260 265

<210> 18

<211> 463

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 18

ccggaattcg acccctcacc atggaatgga gctgggtctt tctcttcttc ctgtcagtaa 60
 ctacaggtgt ccactcccag gttcagttgc agcagtctga cgctgagttg gtgaaacctg 120
 gggcttcagt gaagatttcc tgcaaggctt ctggctacac cttcactgac catgcaattc 180
 actgggtgaa acagaaccct gaacagggcc tggaatggat tggatatttt tctcccgtaa 240

atgatgattt taaatacaat gagaggttca agggcaaggc cacactgact gcagacaaat 300
cctccagcac tgcctacgtg cagctcaaca gcctgacatc tgaggattct gcagtgtatt 360
tctgtaccag atccctgaat atggcctact ggggtcaagg aacctcagtc accgtctcct 420
caggtggcgg aggcagcgga ggcggtggct ccggaactag tcc 463

<210> 19

<211> 129

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 19

ccggaattcg acccctcacc atggaatgga gctgggtctt tctcttcttc ctgtcagtaa 60
ctacaggtgt cactcccag gttcagttgc agcagtctga cgctgagttg gtgaaacctg 120
gggcttcag 129

<210> 20

<211> 134

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 20

catttccggg agaaaaatat ccaatccatt ccaggccctg ttcagggttc tgtttcaccc 60
agtgaattgc atggtcagtg aaggtgtagc cagaagcctt gcaggaaatc ttcactgaag 120
ccccaggttt cacc 134

<210> 21

<211> 131

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 21

ggatattttt ctcccggaaa tgatgatttt aaatacaatg agagggttcaa gggcaaggcc 60
aactgactg cagacaaatc ctccagcact gcctacgtgc agctcaacag cctgacatct 120
gaggattctg c 131

<210> 22

<211> 132

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequense: Synthetic DNA

<400> 22
ggactagttc cggagccacc gcctccgctg cctccgccac ctgaggagac ggtgactgag 60
gttccttgac cccagtaggc catattcagg gatctggtac agaaatacac tgcagaatcc 120
tcagatgtca gg 132

<210> 23
<211> 536
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequense: Synthetic DNA

<400> 23④④④
ccggaattct ccggaggcgg aggctcggac attgtgatgt cacagtctcc atcctcccta 60
cctgtgtcag ttggcgagaa ggttactttg agctgcaagt ccagtcagag ctttttatat 120
agtggtaatc aaaagaacta cttggcctgg taccagcaga aaccagggca gtctcctaaa 180
ctgctgattt actgggcatc cgctagggaa tctgggggtcc ctgatcgctt cacaggcagt 240
ggatctggga cagatttcac tctctccatc agcagtgtga agactgaaga cctggcagtt 300
tattactgtc agcagtatta tagctatccc ctcacgttcg gtgctgggac caagctggtg 360
ctgaaacggg ccgccgagcc caaatctcct gacaaaactc acacgtgccc accgtgccc 420
gcacctgaac tcttgggggg accgtcagtc ttcctcttcc ccccaaaacc caaggacacc 480
ctcatgatct cccggacccc tgaggtcaca tgcgtggtgg tggacgtgac tagtcc 536

<210> 24
<211> 150
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequense: Synthetic DNA

<400> 24
tctgaattct ccggaggcgg aggctcggac attgtgatgt cacagtctcc atcctcccta 60
cctgtgtcag ttggcgagaa ggttactttg agctgcaagt ccagtcagag ctttttatat 120
agtggtaatc aaaagaacta cttggcctgg 150

<210> 25

<211> 150
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 25
cacactgctg atggagagag tgaaatctgt cccagatcca ctgcctgtga agcgatcagg 60
gacccagat tccctagcgg atgccagta aatcagcagt ttaggagact gccctggttt 120
ctgctggtac caggccaagt agttcttttg 150

<210> 26
<211> 149
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 26
ctctctccat cagcagtgtg aagactgaag acctggcagt ttattactgt cagcagtatt 60
atagctatcc cctcacgttc ggtgctggga ccaagctggt gctgaaacgg gccgccgagc 120
ccaaatctcc tgacaaaact cacacgtgc 149

<210> 27
<211> 149
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 27
ggactagtca cgtccaccac cacgcatgtg acctcagggg tccgggagat catgagggtg 60
tccttgggtt ttgggggggaa gaggaagact gacggtcccc ccaggagtgc aggtgctggg 120
cacggtgggc acgtgtgagt tttgtcagg 149

<210> 28
<211> 526
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 28
caggaaacag ctatgacggt accgaattcg cgaggcaggc agcctggaga gaaggcgctg 60
ggctgcgagg gcgagggggc gcgagggcag ggggcaaccg gaccccgccc gcatccatgg 120

cgcccgtcgc cgtctgggcc gcgctggccg tcggactgga gctctgggct gcggcgcacg 180
ccttgcccgcc ccaggtggca ttacaccct acgccccgga gcccgggagc acatgccggc 240
tcagagaata ctatgaccag acagctcaga tgtgctgcag caaatgctcg ccgggccaac 300
atgcaaaagt cttctgtacc aagacctcg acaccgtgtg tgactcctgt gaggacagca 360
catacaccca gctctggaac tgggttcccg agtgcttgag ctgtgggtcc cgctgtagct 420
ctgaccaggt ggaaactcaa gcctgcactc gggaacagaa ccgcatctgc acctgcaggc 480
ccggctggta ctgcgcgctg agcaagctta ctggccgctg ttttac 526

<210> 29

<211> 537

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 29

caggaaacag ctatgacggt accgctgagc aagcaggagg ggtgccggct gtgcgcgccg 60
ctgcgcaagt gccgcccggg cttcggcgtg gccagaccag gaactgaaac atcagacgtg 120
gtgtgcaagc cctgtgcccc ggggacgttc tccaacacga cttcatccac ggatatttgc 180
aggccccacc agatctgtaa cgtggtggcc atccctggga atgcaagcat ggatgcagtc 240
tgcacgtcca cgtccccac ccggagtatg gccccagggg cagtacactt accccagcca 300
gtgtccacac gatcccaaca cacgcagcca actccagaac ccagcactgc tccaagcacc 360
tccttctctgc tcccaatggg ccccagcccc ccagctgaag ggagcactgg cgacgagccc 420
aaatcttgtg acaaaactca cacatgccca ccgtgcccag cacctgaact cctgggggga 480
ccgtcagtct tcctcttccc cccaaaaccc aaggaagctt actggccgct gttttac 537

<210> 30

<211> 150

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 30

atggcgcccc tcgccgtctg ggccgcgctg gccgtcggac tggagctctg ggctgcggcg 60
cacgccttgc ccgcccaggt ggcatttaca ccctacgccc cggagcccgg gagcacatgc 120
cggctcagag aatactatga ccagacagct 150

<210> 31
<211> 135
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequense: Synthetic DNA

<400> 31
agacggcgac gggcgccatg gatgcgggcg ggggccggtt gccccctgcc ctgcgcacct 60
cgcgccctcg cagcccagcg ccttctctcc aggctgcctg cctcgcgaat tcggtaccgt 120
catagctgtt tcctg 135

<210> 32
<211> 150
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequense: Synthetic DNA

<400> 32
gaactggggt cccgagtgt tgagctgtgg ctcccgtgt agctctgacc aggtggaaac 60
tcaagcctgc actcgggaac agaaccgcat ctgcacctgc aggcccggct ggtactgcgc 120
gctgagcaag cttactggcc gtcgttttac 150

<210> 33
<211> 150
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequense: Synthetic DNA

<400> 33
gcactcggga acccagttcc agagctgggt gtatgtgctg tcctcacagg agtcacacac 60
ggtgtccgag gtcttggtac agaagacttt tgcattgttg cccggcgagc atttgctgca 120
gcacatctga gctgtctggt catagtattc 150

<210> 34
<211> 149
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequense: Synthetic DNA

<400> 34

ctgtgccccg gggacgttct ccaacacgac ttcattccacg gatatttgca ggccccacca 60
gatctgtaac gtggtggcca tccctgggaa tgcaagcatg gatgcagtct gcacgtccac 120
gtccccacc cggagtatgg ccccagggg 149

<210> 35
<211> 150
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 35
gaacgtcccc ggggcacagg gcttgcacac cacgtctgat gtttcagttc ctggtctggc 60
cacgccgaag cccggggcggc acttgccgag cggcgcgcac agccggcacc cctcctgctt 120
gctcagcggg accgtcatag ctgtttcctg 150

<210> 36
<211> 145
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 36
agctgaaggg agcactggcg acgagcccaa atcttgtgac aaaactcaca catgcccacc 60
gtgcccagca cctgaactcc tgggggggacc gtcagtcttc ctcttcccc caaaacccaa 120
ggaagcttac tggccgtcgt ttac 145

<210> 37
<211> 150
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 37
gccagtgtc ccttcagctg gggggctggg gccattggg agcaggaagg aggtgcttgg 60
agcagtgtc ggttctggag ttggctgcgt gtgttgggat cgtgtggaca ctggctgggg 120
taagtgtact gccctgggg ccatactccg 150

<210> 38
<211> 452
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequense: Synthetic DNA

<400> 38

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caggaaacag ctatgacggt accgaattcc gacgagccat ggttgctggg agcgacgcgg 60
ggcggggccct ggggggtcctc agcgtgggtct gcctgctgca ctgcttttgtt ttcattcagct 120
gttttttccca acaaatatat ggtgttgtgt atgggaatgt aactttccat gtaccaagca 180
atgtgcctttt aaaagagggtc ctatggaaaa aacaaaagga taaagttgca gaactggaaa 240
attctgaatt cagagctttc tcattcttta aaaatagggt ttatttagac actgtgtcag 300
gtagcctcac tatctacaac ttaacatcat cagatgaaga tgagtatgaa atggaatcgc 360
caaataattac tgataccatg aagttctttc tttatgtcga caaaactcac acatgcccac 420
cgtgcccagc acctgactgg ccgtcgtttt ac 452
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<210> 39

<211> 138

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequense: Synthetic DNA

<400> 39

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gtttcatcag ctgtttttcc caacaaatat atggtgttgt gtatgggaat gtaactttcc 60
atgtaccaag caatgtgcct ttaaaagagg tcctatggaa aaaacaaaag gataaagttg 120
cagaactgga aaattctg 138
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<210> 40

<211> 129

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequense: Synthetic DNA

<400> 40

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gggaaaaaca gctgatgaaa ccaaagcagt gcagcaggca gaccacgctg aggaccccca 60
gggcccgcgc cgcgtcgctc ccagcaacca tggctcgtcg gaattcggta ccgtcatagc 120
tgtttcctg 129
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<210> 41

<211> 133

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequense: Synthetic DNA

<400> 41
cttaacatca tcagatgaag atgagtatga aatggaatcg ccaaata tta ctgataccat 60
gaagttcttt ctttatgtcg acaaaactca cacatgccca ccgtgcccag cacctgactg 120
gccgtcgttt tac 133

<210> 42
<211> 118
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 42
catcttcac tgatgatgtt aagttgtaga tagtgaggct acctgacaca gtgtctaaat 60
aaaccctatt tttaaaagat gagaaagctc tgaattcaga attttccagt tctgcaac 118

<210> 43
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 43
gtaaaacgac ggccagt 17

<210> 44
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 44
taaataagaat tcggcatcat gtggcagctg ct 32

<210> 45
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 45
aataaaggat cctgggggtca tttgtcttga ggggt 34

<210> 46

ggg tac caa gtc tct ttc tgc ttg gtg atg gta ctc ctt ttt gca gtg 675
 Gly Tyr Gln Val Ser Phe Cys Leu Val Met Val Leu Leu Phe Ala Val
 210 215 220
 gac aca gga cta tat ttc tct gtg aag aca aac att cga agc tca aca 723
 Asp Thr Gly Leu Tyr Phe Ser Val Lys Thr Asn Ile Arg Ser Ser Thr
 225 230 235
 aga gac tgg aag gac cat aaa ttt aaa tgg aga aag gac cct caa gac 771
 Arg Asp Trp Lys Asp His Lys Phe Lys Trp Arg Lys Asp Pro Gln Asp
 240 245 250
 aaa tgaccccagg atcc 788
 Lys

<210> 47
 <211> 254
 <212> PRT
 <213> Homo sapiens

<400> 47
 Met Trp Gln Leu Leu Leu Pro Thr Ala Leu Leu Leu Leu Val Ser Ala
 1 5 10 15
 Gly Met Arg Thr Glu Asp Leu Pro Lys Ala Val Val Phe Leu Glu Pro
 20 25 30
 Gln Trp Tyr Arg Val Leu Glu Lys Asp Ser Val Thr Leu Lys Cys Gln
 35 40 45
 Gly Ala Tyr Ser Pro Glu Asp Asn Ser Thr Gln Trp Phe His Asn Glu
 50 55 60
 Ser Leu Ile Ser Ser Gln Ala Ser Ser Tyr Phe Ile Asp Ala Ala Thr
 65 70 75 80
 Val Asp Asp Ser Gly Glu Tyr Arg Cys Gln Thr Asn Leu Ser Thr Leu
 85 90 95
 Ser Asp Pro Val Gln Leu Glu Val His Ile Gly Trp Leu Leu Leu Gln
 100 105 110
 Ala Pro Arg Trp Val Phe Lys Glu Glu Asp Pro Ile His Leu Arg Cys
 115 120 125
 His Ser Trp Lys Asn Thr Ala Leu His Lys Val Thr Tyr Leu Gln Asn
 130 135 140
 Gly Lys Gly Arg Lys Tyr Phe His His Asn Ser Asp Phe Tyr Ile Pro
 145 150 155 160
 Lys Ala Thr Leu Lys Asp Ser Gly Ser Tyr Phe Cys Arg Gly Leu Phe
 165 170 175
 Gly Ser Lys Asn Val Ser Ser Glu Thr Val Asn Ile Thr Ile Thr Gln
 180 185 190
 Gly Leu Ala Val Ser Thr Ile Ser Ser Phe Phe Pro Pro Gly Tyr Gln

		195				200						205					
Val	Ser	Phe	Cys	Leu	Val	Met	Val	Leu	Leu	Phe	Ala	Val	Asp	Thr	Gly		
	210					215					220						
Leu	Tyr	Phe	Ser	Val	Lys	Thr	Asn	Ile	Arg	Ser	Ser	Thr	Arg	Asp	Trp		
225					230					235					240		
Lys	Asp	His	Lys	Phe	Lys	Trp	Arg	Lys	Asp	Pro	Gln	Asp	Lys				
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<211> 788																	
<212> DNA																	
<213> Homo sapiens																	
 <220>																	
<221> CDS																	
<222> (13)..(774)																	
 <400> 48																	
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					1							5				10	
 gtt tca gct ggc atg cgg act gaa gat ctc cca aag gct gtg gtg ttc 99																	
Val	Ser	Ala	Gly	Met	Arg	Thr	Glu	Asp	Leu	Pro	Lys	Ala	Val	Val	Phe		
	15					20					25						
 ctg gag cct caa tgg tac agg gtg ctc gag aag gac agt gtg act ctg 147																	
Leu	Glu	Pro	Gln	Trp	Tyr	Arg	Val	Leu	Glu	Lys	Asp	Ser	Val	Thr	Leu		
	30				35					40					45		
 aag tgc cag gga gcc tac tcc cct gag gac aat tcc aca cag tgg ttt 195																	
Lys	Cys	Gln	Gly	Ala	Tyr	Ser	Pro	Glu	Asp	Asn	Ser	Thr	Gln	Trp	Phe		
				50					55					60			
 cac aat gag agc ctc atc tca agc cag gcc tcg agc tac ttc att gac 243																	
His	Asn	Glu	Ser	Leu	Ile	Ser	Ser	Gln	Ala	Ser	Ser	Tyr	Phe	Ile	Asp		
			65					70					75				
 gct gcc aca gtc gac gac agt gga gag tac agg tgc cag aca aac ctc 291																	
Ala	Ala	Thr	Val	Asp	Asp	Ser	Gly	Glu	Tyr	Arg	Cys	Gln	Thr	Asn	Leu		
		80					85					90					
 tcc acc ctc agt gac ccg gtg cag cta gaa gtc cat atc ggc tgg ctg 339																	
Ser	Thr	Leu	Ser	Asp	Pro	Val	Gln	Leu	Glu	Val	His	Ile	Gly	Trp	Leu		
	95					100					105						
 ttg ctc cag gcc cct cgg tgg gtg ttc aag gag gaa gac cct att cac 387																	
Leu	Leu	Gln	Ala	Pro	Arg	Trp	Val	Phe	Lys	Glu	Glu	Asp	Pro	Ile	His		
	110				115					120					125		
 ctg agg tgt cac agc tgg aag aac act gct ctg cat aag gtc aca tat 435																	
Leu	Arg	Cys	His	Ser	Trp	Lys	Asn	Thr	Ala	Leu	His	Lys	Val	Thr	Tyr		
				130					135					140			
 tta cag aat ggc aaa ggc agg aag tat ttt cat cat aat tct gac ttc 483																	
Leu	Gln	Asn	Gly	Lys	Gly	Arg	Lys	Tyr	Phe	His	His	Asn	Ser	Asp	Phe		

145	150	155	
tac att cca aaa gcc aca ctc aaa gac agc ggc tcc tac ttc tgc agg			531
Tyr Ile Pro Lys Ala Thr Leu Lys Asp Ser Gly Ser Tyr Phe Cys Arg			
160	165	170	
ggg ctt gtt ggg agt aaa aat gtg tct tca gag act gtg aac atc acc			579
Gly Leu Val Gly Ser Lys Asn Val Ser Ser Glu Thr Val Asn Ile Thr			
175	180	185	
atc act caa ggt ttg gca gtg tca acc atc tca tca ttc ttt cca cct			627
Ile Thr Gln Gly Leu Ala Val Ser Thr Ile Ser Ser Phe Phe Pro Pro			
190	195	200	205
ggg tac caa gtc tct ttc tgc ttg gtg atg gta ctc ctt ttt gca gtg			675
Gly Tyr Gln Val Ser Phe Cys Leu Val Met Val Leu Leu Phe Ala Val			
210	215	220	
gac aca gga cta tat ttc tct gtg aag aca aac att cga agc tca aca			723
Asp Thr Gly Leu Tyr Phe Ser Val Lys Thr Asn Ile Arg Ser Ser Thr			
225	230	235	
aga gac tgg aag gac cat aaa ttt aaa tgg aga aag gac cct caa gac			771
Arg Asp Trp Lys Asp His Lys Phe Lys Trp Arg Lys Asp Pro Gln Asp			
240	245	250	
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Lys			

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<211> 254

<212> PRT

<213> Homo sapiens

<400> 49

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Gln Trp Tyr Arg Val Leu Glu Lys Asp Ser Val Thr Leu Lys Cys Gln
35 40 45

Gly Ala Tyr Ser Pro Glu Asp Asn Ser Thr Gln Trp Phe His Asn Glu
50 55 60

Ser Leu Ile Ser Ser Gln Ala Ser Ser Tyr Phe Ile Asp Ala Ala Thr
65 70 75 80

Val Asp Asp Ser Gly Glu Tyr Arg Cys Gln Thr Asn Leu Ser Thr Leu
85 90 95

Ser Asp Pro Val Gln Leu Glu Val His Ile Gly Trp Leu Leu Leu Gln
100 105 110

Ala Pro Arg Trp Val Phe Lys Glu Glu Asp Pro Ile His Leu Arg Cys
115 120 125

His Ser Trp Lys Asn Thr Ala Leu His Lys Val Thr Tyr Leu Gln Asn
 130 135 140
 Gly Lys Gly Arg Lys Tyr Phe His His Asn Ser Asp Phe Tyr Ile Pro
 145 150 155 160
 Lys Ala Thr Leu Lys Asp Ser Gly Ser Tyr Phe Cys Arg Gly Leu Val
 165 170 175
 Gly Ser Lys Asn Val Ser Ser Glu Thr Val Asn Ile Thr Ile Thr Gln
 180 185 190
 Gly Leu Ala Val Ser Thr Ile Ser Ser Phe Phe Pro Pro Gly Tyr Gln
 195 200 205
 Val Ser Phe Cys Leu Val Met Val Leu Leu Phe Ala Val Asp Thr Gly
 210 215 220
 Leu Tyr Phe Ser Val Lys Thr Asn Ile Arg Ser Ser Thr Arg Asp Trp
 225 230 235 240
 Lys Asp His Lys Phe Lys Trp Arg Lys Asp Pro Gln Asp Lys
 245 250

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 <211> 51
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic DNA

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 <211> 620
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (13)..(609)

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gtt tca gct ggc atg cgg act gaa gat ctc cca aag gct gtg gtg ttc 99
 Val Ser Ala Gly Met Arg Thr Glu Asp Leu Pro Lys Ala Val Val Phe
 15 20 25

ctg gag cct caa tgg tac agg gtg ctc gag aag gac agt gtg act ctg 147
 Leu Glu Pro Gln Trp Tyr Arg Val Leu Glu Lys Asp Ser Val Thr Leu
 30 35 40 45

aag tgc cag gga gcc tac tcc cct gag gac aat tcc aca cag tgg ttt 195

Lys	Cys	Gln	Gly	Ala	Tyr	Ser	Pro	Glu	Asp	Asn	Ser	Thr	Gln	Trp	Phe	
				50					55						60	
cac	aat	gag	agc	ctc	atc	tca	agc	cag	gcc	tcg	agc	tac	ttc	att	gac	243
His	Asn	Glu	Ser	Leu	Ile	Ser	Ser	Gln	Ala	Ser	Ser	Tyr	Phe	Ile	Asp	
			65					70					75			
gct	gcc	aca	gtc	gac	gac	agt	gga	gag	tac	agg	tgc	cag	aca	aac	ctc	291
Ala	Ala	Thr	Val	Asp	Asp	Ser	Gly	Glu	Tyr	Arg	Cys	Gln	Thr	Asn	Leu	
		80					85					90				
tcc	acc	ctc	agt	gac	ccg	gtg	cag	cta	gaa	gtc	cat	atc	ggc	tgg	ctg	339
Ser	Thr	Leu	Ser	Asp	Pro	Val	Gln	Leu	Glu	Val	His	Ile	Gly	Trp	Leu	
	95					100					105					
ttg	ctc	cag	gcc	cct	cgg	tgg	gtg	ttc	aag	gag	gaa	gac	cct	att	cac	387
Leu	Leu	Gln	Ala	Pro	Arg	Trp	Val	Phe	Lys	Glu	Glu	Asp	Pro	Ile	His	
110					115					120					125	
ctg	agg	tgt	cac	agc	tgg	aag	aac	act	gct	ctg	cat	aag	gtc	aca	tat	435
Leu	Arg	Cys	His	Ser	Trp	Lys	Asn	Thr	Ala	Leu	His	Lys	Val	Thr	Tyr	
				130					135					140		
tta	cag	aat	ggc	aaa	ggc	agg	aag	tat	ttt	cat	cat	aat	tct	gac	ttc	483
Leu	Gln	Asn	Gly	Lys	Gly	Arg	Lys	Tyr	Phe	His	His	Asn	Ser	Asp	Phe	
			145					150					155			
tac	att	cca	aaa	gcc	aca	ctc	aaa	gac	agc	ggc	tcc	tac	ttc	tgc	agg	531
Tyr	Ile	Pro	Lys	Ala	Thr	Leu	Lys	Asp	Ser	Gly	Ser	Tyr	Phe	Cys	Arg	
		160					165					170				
ggg	ctt	ttt	ggg	agt	aaa	aat	gtg	tct	tca	gag	act	gtg	aac	atc	acc	579
Gly	Leu	Phe	Gly	Ser	Lys	Asn	Val	Ser	Ser	Glu	Thr	Val	Asn	Ile	Thr	
	175					180					185					
atc	act	caa	ggt	cat	cat	cat	cat	cat	cat	tgacaggatc	c					620
Ile	Thr	Gln	Gly	His	His	His	His	His	His							
190					195											

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 <211> 199
 <212> PRT
 <213> Homo sapiens

<400> 52
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 Gln Trp Tyr Arg Val Leu Glu Lys Asp Ser Val Thr Leu Lys Cys Gln
 35 40 45
 Gly Ala Tyr Ser Pro Glu Asp Asn Ser Thr Gln Trp Phe His Asn Glu
 50 55 60
 Ser Leu Ile Ser Ser Gln Ala Ser Ser Tyr Phe Ile Asp Ala Ala Thr
 65 70 75 80

Val Asp Asp Ser Gly Glu Tyr Arg Cys Gln Thr Asn Leu Ser Thr Leu
85 90 95

Ser Asp Pro Val Gln Leu Glu Val His Ile Gly Trp Leu Leu Leu Gln
100 105 110

Ala Pro Arg Trp Val Phe Lys Glu Glu Asp Pro Ile His Leu Arg Cys
115 120 125

His Ser Trp Lys Asn Thr Ala Leu His Lys Val Thr Tyr Leu Gln Asn
130 135 140

Gly Lys Gly Arg Lys Tyr Phe His His Asn Ser Asp Phe Tyr Ile Pro
145 150 155 160

Lys Ala Thr Leu Lys Asp Ser Gly Ser Tyr Phe Cys Arg Gly Leu Phe
165 170 175

Gly Ser Lys Asn Val Ser Ser Glu Thr Val Asn Ile Thr Ile Thr Gln
180 185 190

Gly His His His His His His
195

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<220>
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gtt tca gct ggc atg cgg act gaa gat ctc cca aag gct gtg gtg ttc 99
Val Ser Ala Gly Met Arg Thr Glu Asp Leu Pro Lys Ala Val Val Phe
15 20 25

ctg gag cct caa tgg tac agg gtg ctc gag aag gac agt gtg act ctg 147
Leu Glu Pro Gln Trp Tyr Arg Val Leu Glu Lys Asp Ser Val Thr Leu
30 35 40 45

aag tgc cag gga gcc tac tcc cct gag gac aat tcc aca cag tgg ttt 195
Lys Cys Gln Gly Ala Tyr Ser Pro Glu Asp Asn Ser Thr Gln Trp Phe
50 55 60

cac aat gag agc ctc atc tca agc cag gcc tcg agc tac ttc att gac 243
His Asn Glu Ser Leu Ile Ser Ser Gln Ala Ser Ser Tyr Phe Ile Asp
65 70 75

gct gcc aca gtc gac gac agt gga gag tac agg tgc cag aca aac ctc 291
Ala Ala Thr Val Asp Asp Ser Gly Glu Tyr Arg Cys Gln Thr Asn Leu
80 85 90

ttc acc ctc agt gac ccg gtg cag cta gaa gtc cat atc ggc tgg ctg	339
Ser Thr Leu Ser Asp Pro Val Gln Leu Glu Val His Ile Gly Trp Leu	
95 100 105	
ttg ctc cag gcc cct cgg tgg gtg ttc aag gag gaa gac cct att cac	387
Leu Leu Gln Ala Pro Arg Trp Val Phe Lys Glu Glu Asp Pro Ile His	
110 115 120 125	
ctg agg tgt cac agc tgg aag aac act gct ctg cat aag gtc aca tat	435
Leu Arg Cys His Ser Trp Lys Asn Thr Ala Leu His Lys Val Thr Tyr	
130 135 140	
tta cag aat ggc aaa ggc agg aag tat ttt cat cat aat tct gac ttc	483
Leu Gln Asn Gly Lys Gly Arg Lys Tyr Phe His His Asn Ser Asp Phe	
145 150 155	
tac att cca aaa gcc aca ctc aaa gac agc ggc tcc tac ttc tgc agg	531
Tyr Ile Pro Lys Ala Thr Leu Lys Asp Ser Gly Ser Tyr Phe Cys Arg	
160 165 170	
ggg ctt gtt ggg agt aaa aat gtg tct tca gag act gtg aac atc acc	579
Gly Leu Val Gly Ser Lys Asn Val Ser Ser Glu Thr Val Asn Ile Thr	
175 180 185	
atc act caa ggt cat cat cat cat cat cat tgacaggatc c	620
Ile Thr Gln Gly His His His His His His	
190 195	

<210> 54

<211> 199

<212> PRT

<213> Homo sapiens

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20 25 30	
Gln Trp Tyr Arg Val Leu Glu Lys Asp Ser Val Thr Leu Lys Cys Gln	
35 40 45	
Gly Ala Tyr Ser Pro Glu Asp Asn Ser Thr Gln Trp Phe His Asn Glu	
50 55 60	
Ser Leu Ile Ser Ser Gln Ala Ser Ser Tyr Phe Ile Asp Ala Ala Thr	
65 70 75 80	
Val Asp Asp Ser Gly Glu Tyr Arg Cys Gln Thr Asn Leu Ser Thr Leu	
85 90 95	
Ser Asp Pro Val Gln Leu Glu Val His Ile Gly Trp Leu Leu Leu Gln	
100 105 110	
Ala Pro Arg Trp Val Phe Lys Glu Glu Asp Pro Ile His Leu Arg Cys	
115 120 125	
His Ser Trp Lys Asn Thr Ala Leu His Lys Val Thr Tyr Leu Gln Asn	

130	135	140
Gly Lys Gly Arg Lys Tyr Phe His His Asn Ser Asp Phe Tyr Ile Pro		
145	150	155 160
Lys Ala Thr Leu Lys Asp Ser Gly Ser Tyr Phe Cys Arg Gly Leu Val		
165	170	175
Gly Ser Lys Asn Val Ser Ser Glu Thr Val Asn Ile Thr Ile Thr Gln		
180	185	190
Gly His His His His His His		
195		

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 <212> DNA
 <213> Cricetulus griseus

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tgaatgttgt gctgttactt atctttatta ttatttttgc ttattttcta gccaaatgaa 6480
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tggatgaatgc ttaagaaaaa cgtgtgtgtc actgatattg gttctaattc tatatagcat 6600

gttgtttggt aggtagttga ttatgctggt cagattgtct tgagtttatg caaatgtaaa 6660
atatttagat gcttgttttg ttgtctaaga acaaagtatg cttgctgtct cctatcgggt 6720
ctggtttttc cattcatctc ttcaagctgt tttgtgtggt gaataactaac tccgtactat 6780
cttgttttct gtgaattaac cccttttcaa aggtttcttt tctttttttt ttttaagggac 6840
aacaagttta ttcagattac attttaagct gataatgtat gattgcaagg ttatcaacat 6900
ggcagaaatg tgaagaagct aggacacatta catccacatg gagtcaagag cagagagcag 6960
tgaattaatg catgcattcc tgtggtcagc tcacttttcc tattcttaga tagtctagga 7020
tcataaacct ggggaatagt gctaccacaa tgggcatatc cacttacttc agttcatgca 7080
atcaaccaag gcacatccac aggaaaaact gatttagaca acctctcatt gagactcttc 7140
ccagatgatt agactgtgtc aagttgacaa ttaaaactat cacacctgaa gccatcacta 7200
gtaaataata tgaaaatggt gattatcacc ataattcatc tgtatccctt tgttattgta 7260
gattttgtga agttcctatt caagtccttg ttccttcctt aaaaacctgt tttttagtta 7320
aatagggttt ttagtgttcc tgtctgtaaa tactttttta aagttagata ttattttcaa 7380
gtatgttctc ccagtctttg gcttgtattt tcatcccttc aatacatata tttttgtaat 7440
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aggaaggggtg aggccctcca tgggggaaat cttcaatgtc tgtcatatca tttggagcag 7620
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cccaaagttc atttgtgtac taggggtaaa tactgatcca ctatcagtgg ccccatagat 7740
tgtccggacc tccaaactga cttcctcctt cagggagtct ggaacagttc tatgctgggt 7800
tcccagatat cagtctgggg tccatgagca accccttggt caggtcagtt gtttctgtag 7860
gtttccccag cccggtcttg acccctttgc tcatcacttc tccctctctg caactggatt 7920
ccagagttca gctcagtgtt tagctgtggg tgtctgcac tgcttccatc agctactgga 7980
tgagggctct aggatggcat ataaggtagt catcagtctc attatcagag aagggtttt 8040
aaggtagcct cttgattatt gcttagattg ttagttgggg tcaaccttgt aggtctctgg 8100
acagtgacag aattctcttt aaacctataa tggctccctc tgtggtggta tcccttttct 8160
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gcttatgaga tcttgtcctt attttagcaa aacctttttg gctataaaat taattaattt 8340
aatatgctta tatcagggtt attttggcta gtatttgtat gtgtttgggt agtgttttta 8400

accttaattg acatgtatcc ttatatattag acacagattt aaatatttga agtttttttt 8460
 tttttttttt ttaaagattt atttattttt tatgtcttct gcctgcatgc cagaagaggg 8520
 caccagatct cattcaagggt ggttgtagc caccatgtgg ttgctgggaa ttgaactcag 8580
 gacctctgga agaacagtca gtgctcttaa ccgctgagcc atctctccag cccctgaagt 8640
 gtttctttta aagaggatag cagtgcata tttttccctt tgaccaatga ctcctacctt 8700
 actgaattgt tttagccatt tatatgtaat gctgttacca ggtttacatt ttcttttatc 8760
 ttgctaaatt tcttccctgt ttgtctcatc tcttattttt gtctgttgga ttatataggc 8820
 ttttattttt ctgtttttac agtaagttat atcaaattaa aattatttta tggaatgggt 8880
 gtgttgacta catgtatgtc tgtgcacat gtgctgacct ggtcttggcc agaagaagggt 8940
 gtcataattc ctgaaactgg tattgtggat gttacgaact gccatagggt gctaggaatc 9000
 aaaccccagc tcctctggaa aagcagccac tgctctgagc cactgagtcc tctcttcaag 9060
 caggatgatc caacttttaa tggttaccag tggataagag tgcttgatc tctagcacc 9120
 atgaaaattt atgcattgct atatgggctt gtcacttcag cattgtgtga cagagacagg 9180
 aggatcccaa gagctc 9196

<210> 56
 <211> 28
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic DNA

<400> 56
 gagacttcag cccacttcaa ttattggc 28

<210> 57
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic DNA

<400> 57
 cttgtgtgac tcttaactct cagag 25

<210> 58
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 58

gaggccactt gtgtagcgcc aagtg

25

<210> 59

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 59

ccctcgagat aacttcgtat agc

23

<210> 60

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence : Synthetic DNA

<400> 60

ggtaggcctc actaactg

18

<210> 61

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence : Synthetic DNA

<400> 61

catagaaaca agtaacaaca gccag

25

<210> 62

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 62

gtgagtccat ggctgtcact g

21

<210> 63

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 63

cctgacttgg ctattctcag

20

<210> 64

<211> 235

<212> PRT

<213> Homo sapiens

<400> 64

Leu Pro Ala Gln Val Ala Phe Thr Pro Tyr Ala Pro Glu Pro Gly Ser
1 5 10 15

Thr Cys Arg Leu Arg Glu Tyr Tyr Asp Gln Thr Ala Gln Met Cys Cys
20 25 30

Ser Lys Cys Ser Pro Gly Gln His Ala Lys Val Phe Cys Thr Lys Thr
35 40 45

Ser Asp Thr Val Cys Asp Ser Cys Glu Asp Ser Thr Tyr Thr Gln Leu
50 55 60

Trp Asn Trp Val Pro Glu Cys Leu Ser Cys Gly Ser Arg Cys Ser Ser
65 70 75 80

Asp Gln Val Glu Thr Gln Ala Cys Thr Arg Glu Gln Asn Arg Ile Cys
85 90 95

Thr Cys Arg Pro Gly Trp Tyr Cys Ala Leu Ser Lys Gln Glu Gly Cys
100 105 110

Arg Leu Cys Ala Pro Leu Arg Lys Cys Arg Pro Gly Phe Gly Val Ala
115 120 125

Arg Pro Gly Thr Glu Thr Ser Asp Val Val Cys Lys Pro Cys Ala Pro
130 135 140

Gly Thr Phe Ser Asn Thr Thr Ser Ser Thr Asp Ile Cys Arg Pro His
145 150 155 160

Gln Ile Cys Asn Val Val Ala Ile Pro Gly Asn Ala Ser Met Asp Ala
165 170 175

Val Cys Thr Ser Thr Ser Pro Thr Arg Ser Met Ala Pro Gly Ala Val
180 185 190

His Leu Pro Gln Pro Val Ser Thr Arg Ser Gln His Thr Gln Pro Thr
195 200 205

Pro Glu Pro Ser Thr Ala Pro Ser Thr Ser Phe Leu Leu Pro Met Gly
210 215 220

Pro Ser Pro Pro Ala Glu Gly Ser Thr Gly Asp
225 230

<210> 65

<211> 92
<212> PRT
<213> Homo sapiens

<400> 65
Phe Ser Gln Gln Ile Tyr Gly Val Val Tyr Gly Asn Val Thr Phe His
1 5 10 15
Val Pro Ser Asn Val Pro Leu Lys Glu Val Leu Trp Lys Lys Gln Lys
20 25 30
Asp Lys Val Ala Glu Leu Glu Asn Ser Glu Phe Arg Ala Phe Ser Ser
35 40 45
Phe Lys Asn Arg Val Tyr Leu Asp Thr Val Ser Gly Ser Leu Thr Ile
50 55 60
Tyr Asn Leu Thr Ser Ser Asp Glu Asp Glu Tyr Glu Met Glu Ser Pro
65 70 75 80
Asn Ile Thr Asp Thr Met Lys Phe Phe Leu Tyr Val
85 90

<210> 66
<211> 5
<212> PRT
<213> Mus musculus

<400> 66
Ser Tyr Gly Met Ser
1 5

<210> 67
<211> 17
<212> PRT
<213> Mus musculus

<400> 67
Thr Ile Asn Ser Asn Gly Gly Ser Thr Tyr Tyr Pro Asp Ser Val Lys
1 5 10 15

Gly

<210> 68
<211> 11
<212> PRT
<213> Mus musculus

<400> 68
Asp Arg Asp Gly Tyr Asp Glu Gly Phe Asp Tyr
1 5 10

<210> 69
<211> 10
<212> PRT
<213> Mus musculus

<400> 69

Ser Ala Ser Ser Ser Val Ser Tyr Met His
1 5 10

<210> 70

<211> 7

<212> PRT

<213> Mus musculus

<400> 70

Asp Thr Ser Lys Leu Ala Ser
1 5

<210> 71

<211> 9

<212> PRT

<213> Mus musculus

<400> 71

Gln Gln Trp Ser Ser Asn Pro Pro Thr
1 5

<210> 72

<211> 120

<212> PRT

<213> Mus musculus

<400> 72

Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Gly Met Ser Trp Val Arg Gln Thr Pro Asp Lys Arg Leu Glu Leu Val
35 40 45

Ala Thr Ile Asn Ser Asn Gly Gly Ser Thr Tyr Tyr Pro Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Ser Ser Leu Lys Ser Glu Asp Thr Ala Met Tyr Tyr Cys
85 90 95

Ala Arg Asp Arg Asp Gly Tyr Asp Glu Gly Phe Asp Tyr Trp Gly Pro
100 105 110

Gly Thr Thr Val Thr Val Ser Ser
115 120

<210> 73

<211> 109

<212> PRT

<213> Mus musculus

<400> 73

Asp Ile Glu Leu Thr Gln Ser Pro Ser Ile Met Ser Ala Ser Pro Gly
1 5 10 15
Glu Lys Val Thr Met Thr Cys Ser Ala Ser Ser Ser Val Ser Tyr Met
20 25 30
His Trp Tyr Gln Gln Lys Ser Gly Thr Ser Pro Lys Arg Trp Ile Tyr
35 40 45
Asp Thr Ser Lys Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
50 55 60
Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu Ala Glu
65 70 75 80
Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Pro Thr
85 90 95
Phe Gly Gly Arg Thr Lys Leu Glu Leu Lys Arg Ala Ala
100 105

<210> 74

<211> 244

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Amino Acid Sequence of Single Chain Antibody Fv

<400> 74

Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30
Gly Met Ser Trp Val Arg Gln Thr Pro Asp Lys Arg Leu Glu Leu Val
35 40 45
Ala Thr Ile Asn Ser Asn Gly Gly Ser Thr Tyr Tyr Pro Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Ser Ser Leu Lys Ser Glu Asp Thr Ala Met Tyr Tyr Cys
85 90 95
Ala Arg Asp Arg Asp Gly Tyr Asp Glu Gly Phe Asp Tyr Trp Gly Pro
100 105 110
Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
115 120 125
Gly Ser Gly Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Ser

130	135	140
Ile Met Ser Ala Ser Pro Gly Glu Lys Val Thr Met Thr Cys Ser Ala		
145	150	155 160
Ser Ser Ser Val Ser Tyr Met His Trp Tyr Gln Gln Lys Ser Gly Thr		
	165	170 175
Ser Pro Lys Arg Trp Ile Tyr Asp Thr Ser Lys Leu Ala Ser Gly Val		
	180	185 190
Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr		
	195	200 205
Ile Ser Ser Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln		
	210	215 220
Trp Ser Ser Asn Pro Pro Thr Phe Gly Gly Arg Thr Lys Leu Glu Leu		
225	230	235 240
Lys Arg Ala Ala		

<210> 75

<211> 515

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Amino Acid Sequence of Bispecific Single Chain Antibody

<400> 75

Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly		
1	5	10 15
Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr		
	20	25 30
Gly Met Ser Trp Val Arg Gln Thr Pro Asp Lys Arg Leu Glu Leu Val		
	35	40 45
Ala Thr Ile Asn Ser Asn Gly Gly Ser Thr Tyr Tyr Pro Asp Ser Val		
	50	55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr		
	65	70 75 80
Leu Gln Met Ser Ser Leu Lys Ser Glu Asp Thr Ala Met Tyr Tyr Cys		
	85	90 95
Ala Arg Asp Arg Asp Gly Tyr Asp Glu Gly Phe Asp Tyr Trp Gly Pro		
	100	105 110
Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly		
	115	120 125
Gly Ser Gly Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser Pro Ser		
	130	135 140

Ile	Met	Ser	Ala	Ser	Pro	Gly	Glu	Lys	Val	Thr	Met	Thr	Cys	Ser	Ala	
145					150					155					160	
Ser	Ser	Ser	Val	Ser	Tyr	Met	His	Trp	Tyr	Gln	Gln	Lys	Ser	Gly	Thr	
				165					170					175		
Ser	Pro	Lys	Arg	Trp	Ile	Tyr	Asp	Thr	Ser	Lys	Leu	Ala	Ser	Gly	Val	
			180					185					190			
Pro	Ala	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Ser	Tyr	Ser	Leu	Thr	
		195					200					205				
Ile	Ser	Ser	Met	Glu	Ala	Glu	Asp	Ala	Ala	Thr	Tyr	Tyr	Cys	Gln	Gln	
210						215					220					
Trp	Ser	Ser	Asn	Pro	Pro	Thr	Phe	Gly	Gly	Arg	Thr	Lys	Leu	Glu	Leu	
225				230						235					240	
Lys	Arg	Ala	Ala	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	
				245					250					255		
Gly	Thr	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gln	Val	Gln	
			260					265					270			
Leu	Gln	Gln	Ser	Asp	Ala	Glu	Leu	Val	Lys	Pro	Gly	Ala	Ser	Val	Lys	
		275					280					285				
Ile	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr	Phe	Thr	Asp	His	Ala	Ile	His	
290						295					300					
Trp	Val	Lys	Gln	Asn	Pro	Glu	Gln	Gly	Leu	Glu	Trp	Ile	Gly	Tyr	Phe	
305				310						315					320	
Ser	Pro	Gly	Asn	Asp	Asp	Phe	Lys	Tyr	Asn	Glu	Arg	Phe	Lys	Gly	Lys	
			325						330					335		
Ala	Thr	Leu	Thr	Ala	Asp	Lys	Ser	Ser	Ser	Thr	Ala	Tyr	Val	Gln	Leu	
			340					345					350			
Asn	Ser	Leu	Thr	Ser	Glu	Asp	Ser	Ala	Val	Tyr	Phe	Cys	Thr	Arg	Ser	
		355					360					365				
Leu	Asn	Met	Ala	Tyr	Trp	Gly	Gln	Gly	Thr	Ser	Val	Thr	Val	Ser	Ser	
370						375					380					
Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Asp	
385				390						395					400	
Ile	Val	Met	Ser	Gln	Ser	Pro	Ser	Ser	Leu	Pro	Val	Ser	Val	Gly	Glu	
				405					410					415		
Lys	Val	Thr	Leu	Ser	Cys	Lys	Ser	Ser	Gln	Ser	Leu	Leu	Tyr	Ser	Gly	
			420					425					430			
Asn	Gln	Lys	Asn	Tyr	Leu	Ala	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Gln	Ser	
		435					440					445				
Pro	Lys	Leu	Leu	Ile	Tyr	Trp	Ala	Ser	Ala	Arg	Glu	Ser	Gly	Val	Pro	
450						455					460					

Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Ser Ile
465 470 475 480

Ser Ser Val Lys Thr Glu Asp Leu Ala Val Tyr Tyr Cys Gln Gln Tyr
485 490 495

Tyr Ser Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Val Leu Lys
500 505 510

Arg Ala Ala
515

<210> 76

<211> 515

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Amino Acid Sequence of Bispecific
Single Chain Antibody

<400> 76

Gln Val Gln Leu Gln Gln Ser Asp Ala Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp His
20 25 30

Ala Ile His Trp Val Lys Gln Asn Pro Glu Gln Gly Leu Glu Trp Ile
35 40 45

Gly Tyr Phe Ser Pro Gly Asn Asp Asp Phe Lys Tyr Asn Glu Arg Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

Val Gln Leu Asn Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys
85 90 95

Thr Arg Ser Leu Asn Met Ala Tyr Trp Gly Gln Gly Thr Ser Val Thr
100 105 110

Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
115 120 125

Gly Ser Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Pro Val Ser
130 135 140

Val Gly Glu Lys Val Thr Leu Ser Cys Lys Ser Ser Gln Ser Leu Leu
145 150 155 160

Tyr Ser Gly Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro
165 170 175

Gly Gln Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ala Arg Glu Ser
180 185 190

Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr
195 200 205

Leu	Ser	Ile	Ser	Ser	Val	Lys	Thr	Glu	Asp	Leu	Ala	Val	Tyr	Tyr	Cys	210	215	220
Gln	Gln	Tyr	Tyr	Ser	Tyr	Pro	Leu	Thr	Phe	Gly	Ala	Gly	Thr	Lys	Leu	225	230	235
Val	Leu	Lys	Arg	Ala	Ala	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	245	250	255
Gly	Gly	Gly	Thr	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gln	260	265	270
Val	Gln	Leu	Gln	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly	Ser	275	280	285
Leu	Lys	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Ser	Tyr	Gly	290	295	300
Met	Ser	Trp	Val	Arg	Gln	Thr	Pro	Asp	Lys	Arg	Leu	Glu	Leu	Val	Ala	305	310	315
Thr	Ile	Asn	Ser	Asn	Gly	Gly	Ser	Thr	Tyr	Tyr	Pro	Asp	Ser	Val	Lys	325	330	335
Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ala	Lys	Asn	Thr	Leu	Tyr	Leu	340	345	350
Gln	Met	Ser	Ser	Leu	Lys	Ser	Glu	Asp	Thr	Ala	Met	Tyr	Tyr	Cys	Ala	355	360	365
Arg	Asp	Arg	Asp	Gly	Tyr	Asp	Glu	Gly	Phe	Asp	Tyr	Trp	Gly	Pro	Gly	370	375	380
Thr	Thr	Val	Thr	Val	Ser	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	385	390	395
Ser	Gly	Gly	Gly	Gly	Ser	Asp	Ile	Glu	Leu	Thr	Gln	Ser	Pro	Ser	Ile	405	410	415
Met	Ser	Ala	Ser	Pro	Gly	Glu	Lys	Val	Thr	Met	Thr	Cys	Ser	Ala	Ser	420	425	430
Ser	Ser	Val	Ser	Tyr	Met	His	Trp	Tyr	Gln	Gln	Lys	Ser	Gly	Thr	Ser	435	440	445
Pro	Lys	Arg	Trp	Ile	Tyr	Asp	Thr	Ser	Lys	Leu	Ala	Ser	Gly	Val	Pro	450	455	460
Ala	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Ser	Tyr	Ser	Leu	Thr	Ile	465	470	475
Ser	Ser	Met	Glu	Ala	Glu	Asp	Ala	Ala	Thr	Tyr	Tyr	Cys	Gln	Gln	Trp	485	490	495
Ser	Ser	Asn	Pro	Pro	Thr	Phe	Gly	Gly	Arg	Thr	Lys	Leu	Glu	Leu	Lys	500	505	510
Arg	Ala	Ala														515		

<210> 77
<211> 89
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 77
gaattcgacc cctcaccatg gaatggagct gggctcttct cttcttcctg tcagtaacta 60
ccggtgggga tccccactag tcctccgga 89

<210> 78
<211> 83
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 78
aattcgaccc ctcaccatgg aatggagctg ggtctttctc ttcttcctgt cagtaactac 60
cggtggggat cccactagt cct 83

<210> 79
<211> 83
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 79
ccggaggact agtggggatc cccaccggtg gttactgaca ggaagaagag aaagaccag 60
ctccattcca tggtagggg tcg 83

<210> 80
<211> 411
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 80
gcgaccggtg tccactcca ggtccaactg caggagtcag gaggaggctt agtcagcct 60
ggaggggtccc tgaaactctc ctgtgcagcc tctggattca ctttcagtag ctatggcatg 120
tcttgggttc gccagactcc agacaagagg ctggagttgg tcgcaaccat taatagtaat 180
ggtggtagca cctattatcc agacagtgtg aagggccgat tcaccatctc cagagacaat 240

gccaaagaaca ccctgtacct gcaaattgagc agtctgaagt ctgaggacac agccatgtat 300
tactgtgcaa gagatcggga tggttacgac gagggatttg actactgggg cccagggacc 360
acggtcaccg tctcctcagg tggcggaggc agcggaggcg gtggatccc c 411

<210> 81
<211> 120
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 81
gcgaccggtg tccactccca ggtccaactg caggagtcag gaggaggctt agtgcagcct 60
ggaggggtccc tgaaactctc ctgtgcagcc tctggattca ctttcagtag ctatggcatg 120

<210> 82
<211> 120
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 82
cggcccttca cactgtctgg ataatagggtg ctaccacat tactattaat ggttgcgacc 60
aactccagcc tcttgtctgg agtctggcga acccaagaca tgccatagct actgaaagtg 120

<210> 83
<211> 118
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 83
ccagacagtg tgaagggccg attcaccatc tccagagaca atgccaagaa caccctgtac 60
ctgcaaatga gcagtctgaa gtctgaggac acagccatgt attactgtgc aagagatc 118

<210> 84
<211> 118
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 84
cgcggtacca ccgcctccgc tgccctccgc acctgaggag acggtgaccg tggtccttgg 60

gccccagtag tcaaataccct cgtcgttaacc atccccgatct cttgcacagt aatacatg 118

<210> 85

<211> 386

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 85

gcgggatccg gtggcggagg ctcggacatt gagctgaccc aatctccatc aatcatgtct 60
gcatctccag gggagaaggt caccatgacc tgcagtgccca gctcaagtgt aagttacatg 120
cactgggtacc agcagaagtc aggcacctcc cccaaaagat ggatttatga cacatccaaa 180
ctggcttctg gagtccttgc tcgcttcagt ggcaagtggg ctgggacctc ttactctctc 240
acaatcagca gcatggaggc tgaagatgct gccacttatt actgccagca gtggagtagt 300
aaccaccca cggtcggagg gcggaccaag ctggaactga aacggggccgc cgagcccaaa 360
tctcctgaca aaactcacac gtggcgc 386

<210> 86

<211> 109

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 86

gcgggatccg gtggcggagg ctcggacatt gagctgaccc aatctccatc aatcatgtct 60
gcatctccag gggagaaggt caccatgacc tgcagtgccca gctcaagtg 109

<210> 87

<211> 111

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 87

gcagggactc cagaagccag tttggatgtg tcataaatcc atcttttggg ggaggtgcct 60
gacttctgct ggtaccagtg catgtaactt acacttgagc tggcactgca g 111

<210> 88

<211> 114

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequense: Synthetic DNA

<400> 88

ctggcttctg gagtccctgc tcgcttcagt ggcagtgggt ctgggacctc ttactctctc 60
acaatcagca gcatggaggc tgaagatgct gccacttatt actgccagca gtgg 114

<210> 89

<211> 114

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequense: Synthetic DNA

<400> 89

cgccacgtgt gagttttgtc aggagatttg ggctcggcgg cccgtttcag ttccagcttg 60
gtccgccctc cgaacgtggg tgggttacta ctccactgct ggcagtaata agtg 114

<210> 90

<211> 399

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequense: Synthetic DNA

<400> 90

gcgggatccg gtggcggagg ctcggaacatt gagctgaccc aatctccatc aatcatgtct 60
gcatctccag gggagaaggt caccatgacc tgcagtgcc a gctcaagtgt aagttacatg 120
cactggtacc agcagaagtc aggcacctcc cccaaaagat ggatttatga cacatccaaa 180
ctggcttctg gagtccctgc tcgcttcagt ggcagtgggt ctgggacctc ttactctctc 240
acaatcagca gcatggaggc tgaagatgct gccacttatt actgccagca gtggagtagt 300
aaccaccca cgttcggagg gcggaccaag ctggaactga aacgggccgc cgggtggcgga 360
ggcagcggag gcggtggtag cgggtggcgga actagtgcg 399

<210> 91

<211> 127

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequense: Synthetic DNA

<400> 91

cgactagtt ccgccaccgc taccaccgcc tccgctgcct ccgccaccgg cggcccgttt 60
cagttccagc ttggtccgcc ctccgaacgt ggggtgggtta ctactccact gctggcagta 120

ataagtg

127

<210> 92

<211> 812

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 92

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gacgctgagt tggtgaaacc tggggccttca gtgaagattt cctgcaaggc ttctggctac 120
accttcactg accatgcaat tcactgggtg aaacagaacc ctgaacaggg cctggaatgg 180
attggatatt tttctcccgg aaatgatgat tttaaataca atgagagggt caagggcaag 240
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aaggttactt tgagctgcaa gtccagtcag agccttttat atagtggtaa tcaaaagaac 540
tacttggcct ggtaccagca gaaaccaggg cagtctccta aactgctgat ttactgggca 600
tccgctaggg aatctgggggt ccctgatcgc ttcacaggca gtggatctgg gacagatttc 660
actctctcca tcagcagtgt gaagactgaa gacctggcag tttattactg tcagcagtat 720
tatagctatc ccctcacgtt cggtgctggg accaagctgg tgctgaaacg ggccgccgag 780
cccaaattctc ctgacaaaac tcacacgtgc cc 812

<210> 93

<211> 64

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic DNA

<400> 93

tttactagtg gtggcggagg cagcggaggc ggtggtagcc aggttcagtt gcagcagtct 60

gacg

64

<210> 94

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequense: Synthetic DNA

<400> 94

gggcacgtgt gagttttgtc agg

23

<210> 95

<211> 817

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequense: Synthetic DNA

<400> 95

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gttgggtgaaa cctggggcctt cagtgaagat ttcttgcaag gcttctggct acaccttcac 120
tgaccatgca attcactggg tgaaacagaa ccctgaacag ggcctggaat ggattggata 180
tttttctccc ggaaatgatg attttaaata caatgagagg ttcaaggga aggccacact 240
gactgcagac aaatcctcca gcactgccta cgtgcagctc aacagcctga catctgagga 300
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ggacattgtg atgtcacagt ctccatcctc cctacctgtg tcagttggcg agaagggttac 480
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tcccctcacg ttcggtgctg ggaccaagct ggtgctgaaa cgggccgccg gtggcggagg 780
cagcggaggc ggtggtagcg gtggcggaac tagtaaa 817

<210> 96

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequense: Synthetic DNA

<400> 96

cttcctgtca gtaactaccg gtgtccactc ccaggttcag

40

<210> 97

<211> 85

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 97
tttactagtt ccgccaccgc taccaccgcc tccgctgcct ccgccaccgg cggccccgttt 60

cagcaccagc ttggtcccag caccg 85

<210> 98
<211> 806
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 98
tttactagtg gtggcggagg cagcggaggc ggtggtagcc aggtccaact gcaggagtca 60

ggaggaggct tagtgcagcc tggagggtcc ctgaaactct cctgtgcagc ctctggattc 120

actttcagta gctatggcat gtcttgggtt cgccagactc cagacaagag gctggagttg 180

gtcgcaacca ttaatagtaa tgggtgtagc acctattatc cagacagtgt gaagggccga 240

ttcaccatct ccagagacaa tgccaagaac accctgtacc tgcaaatgag cagtctgaag 300

tctgaggaca cagccatgta ttactgtgca agagatcggg atggttacga cgagggattt 360

gactactggg gcccagggac cacggtcacc gtctcctcag gtggcggagg cagcggaggc 420

ggtggatccg gtggcggagg ctcggacatt gagctgaccc aatctccatc aatcatgtct 480

gcatctccag gggagaaggt caccatgacc tgcagtgcc gctcaagtgt aagttacatg 540

cactggtacc agcagaagtc aggcacctcc cccaaaagat ggatttatga cacatccaaa 600

ctggcttctg gagtccctgc tcgcttcagt ggcagtgggt ctgggacctc ttactctctc 660

acaatcagca gcatggaggc tgaagatgct gccacttatt actgccagca gtggagtagt 720

aaccaccca cgttcggagg gcggaccaag ctggaactga aacgggccgc cgagcccaaa 780

tctcctgaca aaactcacac gtgccc 806

<210> 99
<211> 65
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic DNA

<400> 99
tttactagtg gtggcggagg cagcggaggc ggtggtagcc aggtccaact gcaggagtca 60

ggagg 65

<210> 100
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence : Synthetic DNA

<400> 100
acaacggaat tcaagcctgt agcacatggt gtagc 35

<210> 101
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence : Synthetic DNA

<400> 101
ggcgggatcc tcacagggca atgatcccaa agtagacct 39

<210> 102
<211> 99
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence : Synthetic DNA

<400> 102
aacaacggaa ttcgaccac ggctccacc tctctcccct ggaaaggaca ccatgagcac 60
tgaaagcatg atccgggacg tggagctggc cgaggaggc 99

<210> 103
<211> 99
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence : Synthetic DNA

<400> 103
tgccacgatc aggaaggaga agaggctgag gaacaagcac cgcctggagc cctggggccc 60
ccctgtcttc ttgggggagc cctcctcggc cagctccac 99

<210> 104
<211> 99
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence : Synthetic DNA

<400> 104

tctccttcct gatcgtggca ggcgccacca cgctcttctg cctgctgcac tttggagtga 60

tcggcccca gaggaagag ttccccaggg acctctctc 99

<210> 105

<211> 63

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence : Synthetic DNA

<400> 105

ttggctacaa catgtgctac tgcctgggcc agagggctga ttagagagag gtccttgggg 60

aac 63

<210> 106

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence : Synthetic DNA

<400> 106

aacaacggaa ttcgaccac 20

<210> 107

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence : Synthetic DNA

<400> 107

ttggctacaa catgtgctac 20

<210> 108

<211> 717

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (46)..(708)

<400> 108

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Met Ser Thr Glu

agc atg atc cgg gac gtg gag ctg gcc gag gag gcg ctc ccc aag aag	105
Ser Met Ile Arg Asp Val Glu Leu Ala Glu Glu Ala Leu Pro Lys Lys	
5 10 15 20	
aca ggg ggg ccc cag ggc tcc agg cgg tgc ttg ttc ctc agc ctc ttc	153
Thr Gly Gly Pro Gln Gly Ser Arg Arg Cys Leu Phe Leu Ser Leu Phe	
25 30 35	
tcc ttc ctg atc gtg gca ggc gcc acc acg ctc ttc tgc ctg ctg cac	201
Ser Phe Leu Ile Val Ala Gly Ala Thr Thr Leu Phe Cys Leu Leu His	
40 45 50	
ttt gga gtg atc ggc ccc cag agg gaa gag ttc ccc agg gac ctc tct	249
Phe Gly Val Ile Gly Pro Gln Arg Glu Glu Phe Pro Arg Asp Leu Ser	
55 60 65	
cta atc agc cct ctg gcc cag gca gta gca cat gtt gta gca aac cct	297
Leu Ile Ser Pro Leu Ala Gln Ala Val Ala His Val Val Ala Asn Pro	
70 75 80	
caa gct gag ggg cag ctc cag tgg ctg aac cgc cgg gcc aat gcc ctc	345
Gln Ala Glu Gly Gln Leu Gln Trp Leu Asn Arg Arg Ala Asn Ala Leu	
85 90 95 100	
ctg gcc aat ggc gtg gag ctg aga gat aac cag ctg gtg gtg cca tca	393
Leu Ala Asn Gly Val Glu Leu Arg Asp Asn Gln Leu Val Val Pro Ser	
105 110 115	
gag ggc ctg tac ctc atc tac tcc cag gtc ctc ttc aag ggc caa ggc	441
Glu Gly Leu Tyr Leu Ile Tyr Ser Gln Val Leu Phe Lys Gly Gln Gly	
120 125 130	
tgc ccc tcc acc cat gtg ctc ctc acc cac acc atc agc cgc atc gcc	489
Cys Pro Ser Thr His Val Leu Leu Thr His Thr Ile Ser Arg Ile Ala	
135 140 145	
gtc tcc tac cag acc aag gtc aac ctc ctc tct gcc atc aag agc ccc	537
Val Ser Tyr Gln Thr Lys Val Asn Leu Leu Ser Ala Ile Lys Ser Pro	
150 155 160	
tgc cag agg gag acc cca gag ggg gct gag gcc aag ccc tgg tat gag	585
Cys Gln Arg Glu Thr Pro Glu Gly Ala Glu Ala Lys Pro Trp Tyr Glu	
165 170 175 180	
ccc atc tat ctg gga ggg gtc ttc cag ctg gag aag ggt gac cga ctc	633
Pro Ile Tyr Leu Gly Gly Val Phe Gln Leu Glu Lys Gly Asp Arg Leu	
185 190 195	
agc gct gag atc aat cgg ccc gac tat ctc gac ttt gcc gag tct ggg	681
Ser Ala Glu Ile Asn Arg Pro Asp Tyr Leu Asp Phe Ala Glu Ser Gly	
200 205 210	
cag gtc tac ttt ggg atc att gcc ctg tgaggatcc	717
Gln Val Tyr Phe Gly Ile Ile Ala Leu	
215 220	

<211> 221
<212> PRT
<213> Homo sapiens

<400> 109

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Met Ser Thr Glu Ser Met Ile Arg Asp Val Glu Leu Ala Glu Glu Ala
 1              5              10              15

Leu Pro Lys Lys Thr Gly Gly Pro Gln Gly Ser Arg Arg Cys Leu Phe
          20              25              30

Leu Ser Leu Phe Ser Phe Leu Ile Val Ala Gly Ala Thr Thr Leu Phe
          35              40              45

Cys Leu Leu His Phe Gly Val Ile Gly Pro Gln Arg Glu Glu Phe Pro
          50              55              60

Arg Asp Leu Ser Leu Ile Ser Pro Leu Ala Gln Ala Val Ala His Val
          65              70              75              80

Val Ala Asn Pro Gln Ala Glu Gly Gln Leu Gln Trp Leu Asn Arg Arg
          85              90              95

Ala Asn Ala Leu Leu Ala Asn Gly Val Glu Leu Arg Asp Asn Gln Leu
          100              105              110

Val Val Pro Ser Glu Gly Leu Tyr Leu Ile Tyr Ser Gln Val Leu Phe
          115              120              125

Lys Gly Gln Gly Cys Pro Ser Thr His Val Leu Leu Thr His Thr Ile
          130              135              140

Ser Arg Ile Ala Val Ser Tyr Gln Thr Lys Val Asn Leu Leu Ser Ala
          145              150              155              160

Ile Lys Ser Pro Cys Gln Arg Glu Thr Pro Glu Gly Ala Glu Ala Lys
          165              170              175

Pro Trp Tyr Glu Pro Ile Tyr Leu Gly Gly Val Phe Gln Leu Glu Lys
          180              185              190

Gly Asp Arg Leu Ser Ala Glu Ile Asn Arg Pro Asp Tyr Leu Asp Phe
          195              200              205

Ala Glu Ser Gly Gln Val Tyr Phe Gly Ile Ile Ala Leu
          210              215              220
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<210> 110
<211> 383
<212> DNA
<213> Cricetulus griseus

<400> 110

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gcttctcagg gattcagcta gcatgttgaa gaaacataag ggtgttaa at tgtttgtcac 180
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aagtgtctgaa taaatattga cgtagtcttc agctattcta tactggaagt agatgatatt 240
 ctcatctggaa attctgttag gaagtaaccc ttcttgtctt cttacctgca tagaatccca 300
 ggatataaaa cttgtgcttg tcgcccttgc cattgtctct cactgggtggc ctttattgca 360
 tctcatatct gccttctctt tcc 383

<210> 111
 <211> 564
 <212> DNA
 <213> *Cricetulus griseus*

<400> 111
 taagaattcc tgtgcccagc tgtatgtgag gctctctgca ggtgtaggga tgtttctgct 60
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 actaaagtga ctggacttgt tgggaaacat actgtatgca ttattgccgt tgcctccagg 180
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 aaatagaaat tagaccaat atgactcctt ttttcctaag ctgtttatag agattgtgct 300
 ggagcagtga gcttttgtgt ttgtttgttt gttttgtaat tttcccatg aaaatttctc 360
 taaactcaaa cctaagaggg aaaaaaaaaa aacagactta tatgtgccac acttgtaaaa 420
 aaaaatcatg aaagatgtat atgatatttt taaacagttt gaatattaag atcacaattt 480
 ctatttttaa aacaatcttg tttacatat caatcaccca attcccttgc cttcccatcc 540
 tcccattccc cccactgatc cccc 564

<210> 112
 <211> 120
 <212> DNA
 <213> *Cricetulus griseus*

<400> 112
 atgaatgttc attctttggg tatatgccca agagtagaat tgctaaatat tgaggtagac 60
 tgattcccat tttcttgagg agtcgccata ttgatttcca aagtgactgt acaagttaac 120

<210> 113
 <211> 274
 <212> DNA
 <213> *Cricetulus griseus*

<400> 113
 aggcactagg taaatatttt tgaagaaaga atgagtatct cctatttcag aaaaactttt 60
 attgacttaa atttaggata tcagaattag aaaacagtaa aaatttatag gagagttttt 120
 aatgaatgtt attttaagg tccatacaaa tagtaattaa aacttacaca aactatttgt 180
 agtaatgatt cagtctggta taccctgatg agcattatac actttttaa tctttttgta 240

aattttttta ttagttcaaa ttaggaacaa gctt

274

24/92